REPORT

ON

POST WAR PLANNING

INTERSTATE SANITATION COMMISSION

T h e

INTERSTATE SANITATION COMMISSION

#60 Hudson Street

New York 13, N. Y.

POST WAR PLANNING

in the

INTERSTATE SANITATION DISTRICT

INTERSTATE SANITATION COMMISSIONERS

S U M M A R Y

This report enumerates the various projects which may be adopted in any post war public works planning, referring particularly to pollution abatement of the Interstate Sanitation District.

A list of the municipalities in which such projects may be feasible appears on page 5.

The estimated cost of these projects is in excess of $120,000,000 and will represent approximately 38,600,000 man hours of work at the site of construction. These figures are discussed on page 12.

The report calls attention to related projects, such as elimination of infiltration, discussed on page 14; plants where recording or metering devices are required, discussed on page 18; and the need for additional chlorinators, set forth on page 19.

Untreated or inadequately treated pollution is in violation of State laws and of the Interstate Compact, and its abatement is in the interests of public improvement, public health and in conformity with these laws. The report strongly recommends that every project enumerated herein be considered as being high on any priority list of post war public works improvements.

POST WAR PLANNING

in the

INTERSTATE SANITATION DISTRICT

The Interstate Sanitation Commission was created to control future pollution and to abate existing pollution in the waters under its jurisdiction. The Commission has under its jurisdiction a District that extends roughly from Sandy Hook, northerly through Lower and Upper New York Bays and through the Hudson River to the northerly Westchester and Rockland County line. It extends easterly through Long Island Sound to New Haven on the Connecticut shore and to Port Jefferson on the northerly shore of Long Island, and easterly along the Atlantic Ocean shore of Long Island to Fire Island Inlet.

The Compact and laws under which this Commission functions, establishes definite standards of treatment which must be given to pollution before it is discharged into the District waters. These standards are incorporated in the laws governing the authority and responsibilities of the Commission, and they were established in recognition of the grave menace to health, welfare and the recreational facilities of the people living

in this area, and because of the great economic loss occasioned by gross pollution.

It would therefore appear that one of the foremost of post war public works activities should be works for pollution abatement, consisting of sewage treatment plants, intercepting sewers and laterals. Such construction would provide compliance with established State laws, as well as correct conditions which are considered as constituting a grave menace to health, welfare and recreational facilities, and occasioning great economic loss.

The Interstate Sanitation Commission was established in 1936, when the State of New York ratified the Compact which had already been adopted by the State of New Jersey. In 1941, Connecticut joined the other two States in ratifying the Tri-State Compact.

The policies of the Commission are established by 15 Commissioners, five from each of the States. Under the terms of the Compact and the State laws, the Commission has taken steps to urge municipalities, that are in violation of the provisions of the established standards, to construct sewage treatment works. The Commission has not yet found it necessary to take legal action to compel conformity to these established

standards, although the Tri-State Compact and the State laws give the Commission such authority.

The Commission has likewise, in accord with its obligations and authority, maintained an investigation service to be assured that existing treatment works are being so operated that the effluent from the sewage treatment plant meets the established standards. This is done by having field crews take samples and make field analyses, and by further analyses of the samples made in the Commission laboratory.

STANDARDS

The standards established in the Compact provide for two degrees of treatment dependent upon the classification of the area into which the effluent is discharged.

Class "A"

> When the effluent is discharged into areas which have been designated Class "A", all sewage or other polluting matter discharged or permitted to flow into such areas shall first have been so treated as to remove all floating solids and at least 60% of the suspended solids; and
>
> to effect a reduction of organisms of the B. Coli group (intestinal bacilli) so that the probable number of such organisms shall not exceed one per cubic centimeter in more than 50% of the samples of sewage effluent tested by the partially confirmed test; provided, however, that in the case of discharge into waters used primarily for bathing this bacterial standard need not be required except during the bathing season; and
>
> to effect a reduction in the oxygen demand

of the sewage effluent sufficient to maintain an average dissolved oxygen content in the tidal waters of the district and in the general vicinity of the point of discharge of the sewage into those waters, at a depth of about five feet below the surface, of not less than 50% saturation during any week of the year.

Class "B"

When the effluent is discharged into areas which have been designated Class "B", all sewage or other polluting matter discharged or permitted to flow into such areas shall first have been so treated as to remove all floating solids and at least 10% of the suspended solids, or such additional percentage as may by reason of local conditions be necessary to avoid the formation of sludge deposits in the Class "B" waters of the district; and

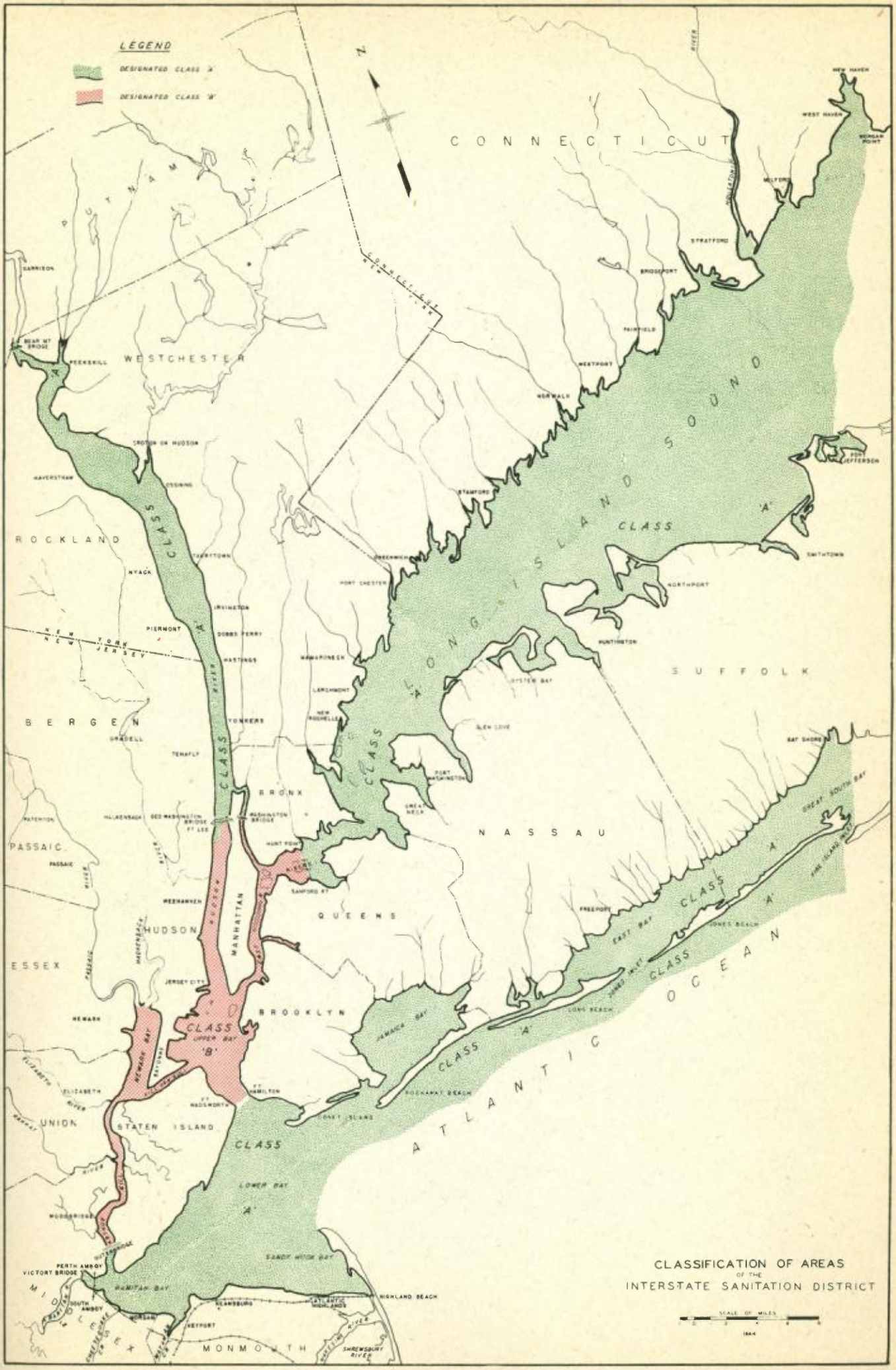
to effect a reduction in the oxygen demand of the sewage effluent sufficient to maintain an average dissolved oxygen content in the tidal waters of the district and in the general vicinity of the point of discharge of the sewage into those waters, at a depth of about five feet below the surface, of not less than 30% saturation during any week of the year.

CLASSIFICATION

The classification of the water areas of the Interstate Sanitation District is shown on the accompanying map.

POST WAR PROJECTS

As a result of the Commission's investigations and the records of the sanitary conditions in the various municipalities, the Commission is in a position to


LEGEND
DESIGNATED CLASS 'A'
DESIGNATED CLASS 'B'
CONNECTICUT
WESTCHESTER
ROCKLAND
BERGEN
PASSAIC
HUDSON
ESSEX
UNION
MIDDLESEX
MONMOUTH
SUFFOLK
NASSAU
BRONX
QUEENS
BROOKLYN
STATEN ISLAND
LONG ISLAND SOUND
ATLANTIC OCEAN
CLASS 'A'
CLASS 'B'
HUDSON RIVER
EAST RIVER
NEWARK BAY
RARITAN BAY
SANDY HOOK BAY
LOWER BAY
UPPER BAY
GREAT SOUTH BAY
JONES BEACH
LONG BEACH
ROCKAWAY BEACH
NEW HAVEN
WEST HAVEN
MILFORD
STRATFORD
BRIDGEPORT
FAIRFIELD
WESTPORT
NORWALK
STAMFORD
PORT JEFFERSON
SMITHTOWN
NORTHPORT
HUNTINGTON
OYSTER BAY
GLEN COVE
PORT WASHINGTON
GREAT NECK
BAY SHORE
FREEPORT
EAST BAY
LONG BEACH
JAMAICA BAY
EAST ISLAND
FT HAMILTON
FT WADSWORTH
NEW ROCHELLE
LARCHMONT
MAMARONECK
PORT CHESTER
GREENWICH
TARRYTOWN
IRVINGTON
DOBBS FERRY
HASTINGS
YONKERS
TUCKAHOE
NYACK
HAVERSTRAW
OSSINING
CROTON ON HUDSON
PEEKSKILL
BEAR MT BRIDGE
GARRISON
PIERMONT
GRADELL
TENAFLY
PATERSON
HALEDON
GEO WASHINGTON BRIDGE
FT LEE
WASHINGTON BRIDGE
HUNT POINT
SAMPSON PT
WEEHAWKEN
PASSAIC
JERSEY CITY
NEWARK
ELIZABETH
ELIZABETH RIVER
WOODBRIDGE
PERTH AMBOY
VICTORY BRIDGE
SOUTH AMBOY
KEYPORT
HIGHLAND BEACH
SHREWSBURY RIVER
CONNECTICUT RIVER
NEW YORK
NEW JERSEY
N
CLASSIFICATION OF AREAS
OF THE
INTERSTATE SANITATION DISTRICT
SCALE OF MILES
1964

enumerate those municipalities within the Interstate Sanitation District where construction is necessary to meet the requirements of the Compact.

Some construction is believed to be necessary or desirable in the municipalities listed herewith.

I
MUNICIPALITIES UNDER ORDER
from the
INTERSTATE SANITATION COMMISSION

Croton-on-Hudson, N.Y.
Elizabeth, N.J.
Englewood Cliffs, N.J.
Fort Lee, N.J.
Great Neck Sewer District, N.Y.
Joint Outlet Sewer Owners
Union City, N.J.
Weehawken, N.J.
West New York, N.J.
Linden, N.J.
Roselle, N.J.

II
DISCHARGING UNTREATED SEWAGE
into the
INTERSTATE SANITATION DISTRICT

Army Posts and Federal Reservations

Ellis Island
Fort Hamilton
Fort Jay
Hoffman Island
Swinburne Island

Municipalities

Bayonne, N.J.
Bridgeport, Conn. (Part)
Carteret, N.J.
Croton-on-Hudson, N.Y.
Edgewater, N.J.
Elizabeth, N.J. (Part)
Fort Lee, N.J.
Guttenburg, N.J.
Hoboken, N.J.
Irvington, N.Y.
Jersey City, N.J.
Linden, N.J.
New York, N.Y. (Part)
New Haven, Conn. (Part)
Peekskill, N.Y.
Roselle, N.J.
Union City, N.J.
Weehawken, N.J.
West New York, N.J.
Woodbridge, N.J. (Part)
Cliffside Park, N.J. (Part)

III
DISCHARGING INADEQUATELY TREATED SEWAGE into the INTERSTATE SANITATION DISTRICT

Army Posts and Federal Reservations

Bedloe Island
Fort Tilden

Municipalities

Englewood Cliffs, N.J.
Keansburg, N.J.
Long Beach, N.Y.
New Rochelle, N.Y.
New York, N.Y.
Cromwell Ave.
Dyckman St.
Hammels
Oakwood Beach
Palisades Interstate Park, Bear Mountain. N.Y.
Piermont, N.Y.
Port Jefferson, N.Y.
Sing Sing Prison, Ossining, N.Y
Stratford, Conn.
Westchester Co. Sewer Comm., N.Y
Mamaroneck
Rye (Blind Brook)
Yonkers, North
" South

IV
MUNICIPALITIES needing COMPLETE COLLECTING SYSTEM AND TREATMENT PLANT

Alpine, N.J.
Babylon, N.Y.
Bayville, N.Y.
Buchanan, N.Y.
Fairfield, Conn.
Grand View, N.Y.
Islip Town, N.Y.
Kings Point, N.Y.
Madison Township, N.J.
Plandome, N.Y.
Plandome Heights, N.Y.
Plandome Manor, N.Y.
Sands Point, N.Y.
Sea Cliff, N.Y.
Stony Point, N.Y.
Union Beach, N.J.
Upper Nyack, N.Y.
Verplank, N.Y.
Westport, Conn.

There follows a map showing the municipalities in which there are post war pollution abatement projects.

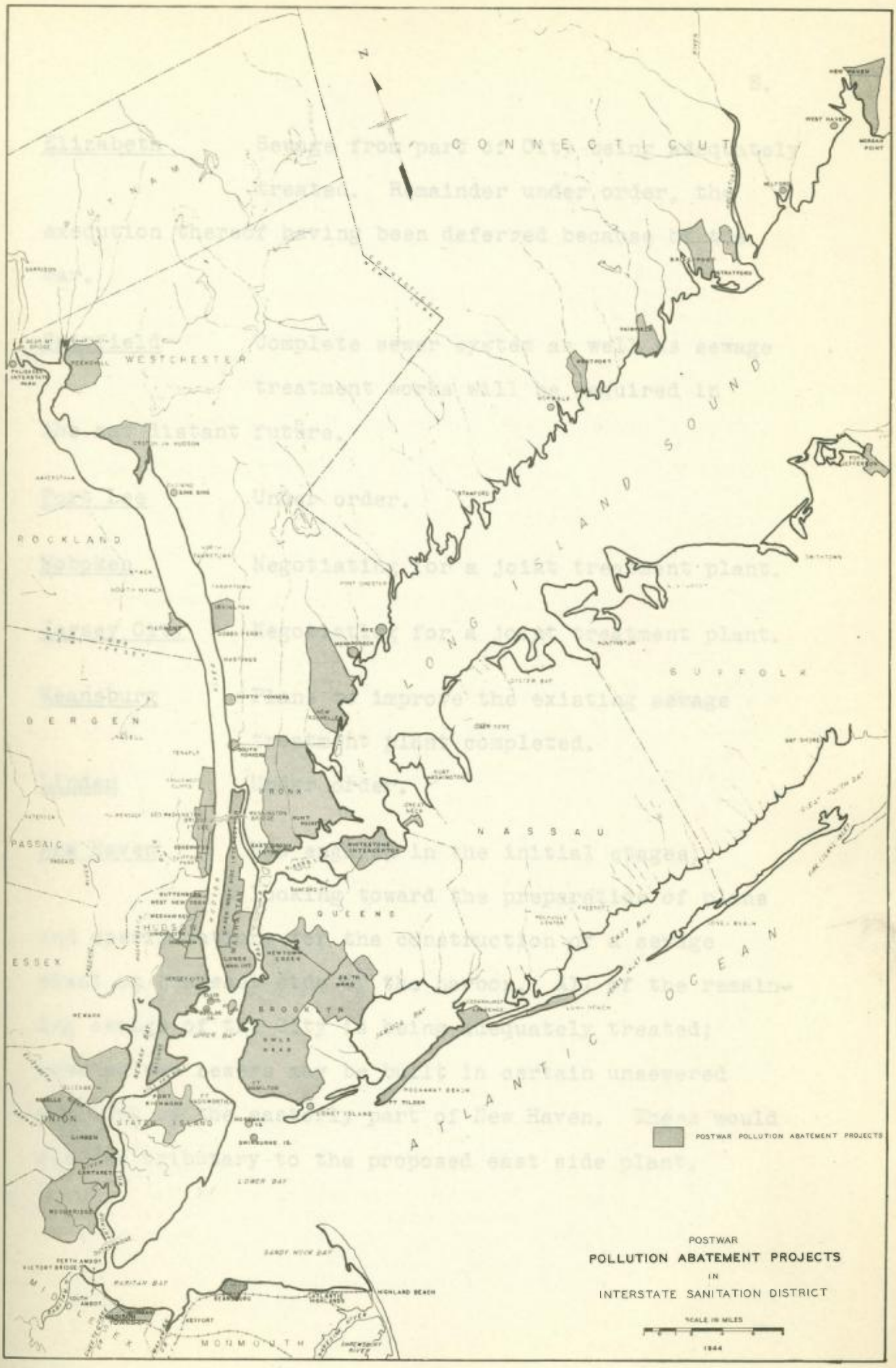
The following comments are pertinent to certain of the municipalities included in the foregoing lists, or which have post war sanitation projects.

Bayonne — The Naval Supply Depot, which is within the City limits of Bayonne, has a plant giving adequate treatment to the sewage emanating from the Depot. The City of Bayonne has been negotiating with adjacent municipalities for a joint disposal system.

Bridgeport — The West Side is served by a treatment plant now being completed. The East Side-however will require a complete treatment plant and intercepting system. The City however is actively engaged in providing means to prepare plans and specifications to abate all of the pollution. Every effort is being made by the City officials to undertake this program at the earlist possible date.

Carteret — Monies are included in present budget for engineering plans.

Croton-on-Hudson — Plans and specifications completed.



POSTWAR

POLLUTION ABATEMENT PROJECTS

IN

INTERSTATE SANITATION DISTRICT

SCALE IN MILES

1944

Elizabeth — Sewage from part of City being adequately treated. Remainder under order, the execution thereof having been deferred because of the war.

Fairfield — Complete sewer system as well as sewage treatment works will be required in the not distant future.

Fort Lee — Under order.

Hoboken — Negotiating for a joint treatment plant.

Jersey City — Negotiating for a joint treatment plant.

Keansburg — Plans to improve the existing sewage treatment plant completed.

Linden — Under order.

New Haven — Now engaged in the initial stages, looking toward the preparation of plans and specifications for the construction of a sewage plant on the east side of the harbor. All of the remaining sewage of the City is being adequately treated; however new sewers may be built in certain unsewered sections of the easterly part of New Haven. These would also be tributary to the proposed east side plant.

New York City Now served by six modern sewage treatment works, with a combined design capacity of 400,000,000 gallons daily, and now operating and treating flows in the neighborhood of 350,000,000 gallons daily. These works and their intercepting sewers to date have cost about $58,000,000. The total cost of the City's program for sewage abatement works is estimated to cost an additional $119,000,000. The City has appropriated funds and there is presently underway designs with complete construction plans and specifications for treatment works which will be undertaken as soon as conditions permit. The construction of the 26th Ward sewage treatment works, with a capacity of 60,000,000 gallons daily has progressed to a point where it is expected that it will be able to furnish preliminary treatment this spring.

NEW YORK CITY
POST WAR
SEWAGE DISPOSAL PROGRAM

Project	Estimated Cost
26th Ward Sewage Treatment Works	2,732,800
Owls Head Sewage Treatment Works	14,500,000
Newtown Creek Sewage Treatment Works	12,000,000
Upper West Side Intercepting Sewers	15,000,000
(Extension to Wards Island Plant)	15,000,000
Hunts Point Sewage Treatment Works	14,000,000
Rockaway Sewage Treatment Works	2,900,000
Whitestone Intercepting Sewer	1,300,000
Lower Manhattan Intercepting Sewer	540,000
Port Richmond Sewage Treatment Works	1,000,000
East Bronx Intercepting Sewer	1,000,000
Coney Island Sewage Treatment Works	300,000
Jamaica Sewage Treatment Works	65,000
Bowery Bay Sewage Treatment Works	75,000
Two Sludge Vessels	1,500,000

Norwalk — Minor improvements are contemplated in the existing sewage treatment works to provide for grit chambers.

Peekskill — Has applied to the New York State Post War Planning Commission for financial aid in the preparation of plans.

Roselle — The discharge of sewage from a portion of Roselle passes through Linden.

Stratford — The present municipal treatment plant is overtaxed and enlargement and modernization are necessary. The municipality has recognized this need and has begun engineering surveys and estimates.

West Haven — The Town is considering the construction of a digestion tank to facilitate the handling of sludge, which will not however involve any change in the character of the sewage effluent.

Westport — Some pollution occurs as a result of private sources and a general system of sewers will be ultimately required.

Municipalities having post war plans but not falling into the categories of the foregoing lists are as follows:

Elizabeth
Joint Meeting Has post war plans for construction of a supplemental sewer to relieve overloaded sections.

Milford Is served by a sewage treatment works, but will need an extension to its sewer system.

Stamford Although most of the City of Stamford is adequately served by a modern sewage treatment plant, the area known as Shippan Point and Southfield Point which is not connected with the sewage treatment plant needs attention. Also the area of the Town of Stamford, outside of the City, is badly in need of sewers in many sections.

West Haven is considering the addition of sludge digestion tanks to its plant.

Westport The Town has recently authorized a preliminary study for installation of sewers.

COST

In many cases, plans and estimates have not proceeded sufficiently to make an accurate prediction of the cost of the project. Such is particularly true

of most projects in List IV, which contains the names of municipalities needing a complete collecting system and treatment plant. Summarizing all of the available information, however, the cost of the first three lists will be:-

I		$ 6,528,000
II	(Excluding New York City)	23,265,000
	New York City	81,912,800
III		9,275,000

It is extremely difficult to translate these figures into man hours of work. Based however upon general experiences in the field of water and sewerage systems and treatment works, the program included in lists I, II and III will represent approximately 38,600,000 man hours of work at the site of the construction projects. It is to be realized however that in addition to the work at the site of the project, there may be 2-1/2 hours spent by employees engaged in manufacturing, supplying and transporting the materials for the project for every hour of labor spent on the project itself. If these general figures hold true, the projects listed above would represent a total of over 130 million man hours.

In addition to major construction for pollution abatement programs, the attention of municipalities and post war planning agencies is particularly called to

certain improvements and additions which may also prove a most valuable post war effort.

We have reviewed the records accumulated from our plant investigations carried on for the purpose of keeping informed of plants in violations of the provisions of the Tri-State Compact.

It is accepted that large quantities of infiltration findsits way into sewer systems unless they are maintained in good condition. Ground water enters the laterals and trunk sewer through broken pipes and imperfect joints. One of the most satisfactory means of determining the amount of infiltration is by accurately measuring the flow during extremely dry spell and comparing this to the flow when the ground water is usually high. This Commission has had no reason to carry on such investigations; however in connection with our regular inspections and investigations of plant operation we record the sewage flow being treated.

Increased infiltration will dilute the sewage and by observing variations in the concentrations of the solids in the sewage we again have an indication of increased infiltration.

We have reviewed our records with particular reference to the rainfall or precipitation. It must be recognized that following a dry spell it would not be unusual if rainfall the day prior to the investigation

would have practically no effect on infiltration as this rainfall would be absorbed by the vegetation. Long rainfalls on the other hand would tend to raise the ground water level and therefore increase the infiltration.

There follows a list of the municipalities wherein abnormal infiltration is evidenced, either by increased flow or by dilution indicated by reduced suspended solids.

Atlantic Highlands	(c)
Briarcliff Manor	(b)
Great Neck District	(a)
Huntington District	(a)
Larchmont	(b)
Lawrence	(c)
Northport	(c)
North Tarrytown	(a)
Ossining, N.E.	(a)
Ossining, S.E.	(b)
Oyster Bay District	(a)
Piermont	(c)
Port Chester	(b)
Tarrytown	(a)
West Haverstraw	(c)

(a) Municipalities where infiltration is evidenced by dilution as reflected in suspended solids, precipitation and an increase in the flow passing through the treatment plant.

(b) Municipalities where infiltration is evidenced by dilution as reflected in low suspended solids and precipitation during the week previous to the investigations, but with unreliable records of flow.

(c) Municipalities where infiltration is evidenced by dilution but with no correlated relationship of precipitation or reliable record of flow. Dilution as evidenced by low suspended solids may be indicative of continuous infiltration which is unaffected by precipitation.

The data concerning rainfall, flow and dilution evidenced by low suspended solids is set forth in the following tabulation.

DATA RELATED TO INFILTRATION

Municipality	Date of Investigation	Flow M.G.D.	Meter	Precipitation Week Previous	Precipitation 24 Hours Previous	Precipitation Day of Sample	Sus. Solids p.p.m.
Atlantic Highlands	5/16/38	0.20	Foxboro	2.42	0.77	(0)	173
	8/3/39	0.20	Recorder	0.38	0	(05)	154
	11/2/39			2.21	Trace	0	152
	3/25/40	0.22		0.54	0	0	92
	4/3/40	0.22		0.51	0	0.36	144
	3/6/41	0.25		0.35	0	0	76
	8/6/41	0.25		0.75	Trace	0	175
	5/6/42	0.25		0.01	0	.04	218
	7/20/43	0.20		Trace	0	.01	216
Briarcliff Manor	6/9/38		None	1.53	0.55	0	26
	6/22/38	0.50		0.46	0	Trace	86
	9/13/39	0.06		0.37	0.01	0.01	144
	6/25/40	0.06		1.22	0.83	0.19	48
	5/28/41	0.15		0.11	0.04	0.26	141
	6/25/42	0.20		0.95	Trace	Trace	51
	6/7/43	0.19		1.18	0	1.03	94
Great Neck	5/23/38	0.80	Bailey	0.22	0.21	Trace	88
	8/30/39	1.00	Sewage	0.53	0.07	0.19	208
	4/9/40	2.00	Type	2.56	1.90	Trace	253
	5/20/41	1.00	FF 36	0.10	Trace	0	125
	4/13/42	1.14		Trace	0	0	164
	4/26/43	1.48		0.34	0.33	0.12	151
	4/27/44	2.5		2.08	0.18	0.53	72
Huntington District	6/1/38	0.75	Weir	0.84	0	0	158
	9/11/39	0.90	Accura-	0.44	.06	0	246
	4/2/40	0.95	cy of	0.51	0	0	114
	7/31/41	0.65	Indicator	0.32	0.17	0.01	260
	5/26/42	0.55	Subject	0.23	0	0	268
	5/12/43	0.44	to Confir-	0.35	0.06	1.75	231
	3/29/44	0.88	mation	0.87	0.2	0.08	147
Larchmont	6/7/38	0.65	None	0.36	0	0.62	186
	6/27/38			1.09	1.06	1.07	188
	10/10/39	0.80		0.08	0	0	205
	6/3/40	1.00		3.63	0	0	89
	5/28/41	0.80		0.07	0	0.04	156
	8/8/41	0.90		0	0	0	151
	6/10/42	0.80		3.10	0	0	163
	7/28/42	0.90		Trace	0.97	0	77
	8/12/42	0.60		2.94	0	0.01	142
	6/1/43	0.80		0.75	0	1.18	153

DATA RELATED TO INFILTRATION continued

Municipality	Date of Investigation	Flow M.G.D.	Meter	Precipitation Week Previous	Precipitation 24 Hours Previous	Precipitation Day of Sample	Sus. Solids p.p.m.
Lawrence	5/2/38	0.30	Bailey	0.04	0	0	189
	8/16/39	0.40	Recorder	0.08	0	0.13	170
	4/1/40	0.49		0.51	0.13	0	128
	4/15/40	0.40		2.74	Trace	Trace	209
	7/28/41	0.49		0.05	Trace	0.10	195
	7/6/42	0.43		2.18	0	0.40	228
	5/3/43	0.48		0.28	0.01	0.03	167
	5/11/43	0.48		0.35	0.27	0.06	112
	8/3/43	0.44		0.72	0	0	143
	3/9/44	0.54		1.29	0.27	0	103
Northport	6/2/38	0.08	None	0.75	0	Trace	98
	9/12/39	0.15		0.58	0	0.01	100
	5/9/40	0.20		0.41	0.01	0.14	86
	7/14/41	0.13		1.69	0	0	188
	7/20/42	0.13		1.63	0	0	245
	8/24/42	0.18		0.43	0.26	0	174
	7/21/43	0.15		0.01	.01	Trace	215
North Tarrytown	6/27/38	0.80	Simplex	1.09	1.06	1.07	176
	6/4/41	0.85	Meter	1.11	0	0.86	152
	8/19/41	0.08		0.46	0	0.63	166
	6/24/42	0.85		1.42	0.04	0	226
	6/2/43	1.20		1.92	1.18	Trace	116
	8/23/43	1.00		0	0	0	221
Ossining, N.E.	6/9/41	1.00	Simplex	1.51	0	0	313
	6/15/42	1.20	Meter	3.52	Trace	0	360
	6/9/43	1.40		1.03	0	0.47	105
Ossining, S.E.	6/3/41	0.20	Simplex	1.11	0	0	328
	6/16/42	0.19	Meter	0.54	0	0	306
	8/20/42	0.20		3.56	0	0	128
	6/10/43	0.26		1.50	0.47	Trace	153
Oyster Bay District	6/1/38	0.82	Republic	0.84	0	0	158
	9/18/39	0.90	Flow	0.02	0	0	106
	11/6/39	1.20	Meter	1.37	1.46	0	60
	9/9/40	1.00		Trace	0	0.31	78
	6/23/41	0.90		Trace	0	0	113
	7/24/41	0.90		1.24	0	Trace	169
	5/20/42	1.17		0.44	Trace	Trace	75
	6/30/43	1.00		0.04	0.30	0	88

DATA RELATED TO INFILTRATION continued

Municipality	Date of Investigation	Flow M.G.D.	Meter	Precipitation Week Previous	Precipitation 24 Hours Previous	Precipitation Day of Sample	Sus. Solids p.p.m.
Piermont	6/20/38	0.15		2.16	0	0	266
	8/2/39	0.13		0.38	0	0	158
	9/23/40	0.06		0.04	0	0	158
	9/11/41	0.13		0.11	Trace	Trace	180
	7/16/42	0.13		0.49	0	0	98
	7/28/43	0.15		0.76	0.26	0.08	117
Port Chester	6/18/38		None	2.43	0	0.46	416
	9/25/39	2.50		0.19	0	Trace	370
	6/17/40	2.00		0.05	0	0	254
	6/30/41	2.00		Trace	Trace	0.18	245
	6/9/42	2.00		3.09	0.02	0	328
	8/18/42	3.75		3.57	1.22	0	124
	5/27/43			1.38	0.68	0	124
	8/5/43			0.47	0.09	0.02	254
Port Jefferson District	6/2/38	0.15	None	0.75	0	Trace	81
	10/18/39	0.15		Trace	Trace	0	101
	7/29/40	0.60		0.55	0	0	115
	7/1/41	0.15		0.18	0.18	0.1	102
	9/9/41	0.15		0.11	0	0	73
	5/27/42	0.15		0.23	0	0	102
	5/13/43	0.12		2.10	1.75	0.01	86
Tarrytown	6/16/38		Flowatch	2.43	Trace	0	215
	6/16/41	0.80	Meter	1.55	Trace	Trace	229
	4/14/42	1.22		1.40	0	0	129
	8/17/42	2.50		2.48	1.11	1.22	95
	6/3/43	1.20		1.24	Trace	0	67
West Haverstraw	6/15/38		None	3.60	0.01	Trace	151
	8/14/39	0.40		0.15	0.01	0.07	202
	11/1/39	0.40		2.21	1.37	Trace	190
	6/19/40	0.15		0.03	Trace	0.37	135
	6/10/41	0.20		1.51	0	0	223
	7/2/42	0.20		0.57	0.38	1.46	140
	7/29/42	0.22		0.97	0	0.01	219
	5/19/43	0.20		2.05	0.14	0.83	159

Undoubtedly many of our investigations were made only at the time of dry weather. The fact we have no

indication of infiltration at these plants is not conclusive evidence that such does not exist. The matter of infiltration results in increased flow through treatment plants, which in turn means increased use of chlorine or other chemicals and increased use of power if any portion of the sewage is pumped. One can naturally see that any increased infiltration will therefore mean increased cost of operation and not infrequently the cost of eliminating infiltration is many times repaid by a decrease in the operating costs.

METERS There is listed herewith those plants on which we have records indicating the need of metering devices. It is recognized that every modern sewage treatment plant should have an accurate means of determining the quantity being handled. The metering devices are almost an essential and we are of the opinion that they could very readily be included as a most satisfactory post war project.

Atlantic Highlands	(c)
Briarcliff Manor	(a)
Canal Street, N.Y.C.	(b)
Cliffside Park	(a)
Dyckman Street, N.Y.C.	(a)
Englewood Cliffs	(a)
Freeport	(b)
Hammels	(a)
Huntington	(c)
Keansburg	(a)
Larchmont	(a)
Long Beach	(a)
Northport	(a)

Orchard Beach	(a)
Piermont Village	(a)
Port Chester	(a)
Port Jefferson	(a)
Richmond Memorial Hosp.	(a)
Rye (Blind Brook)	(c)
South Nyack	(a)
Yonkers, South	(a)
West Haverstraw	(a)

(a) Plants without meters.

(b) Plants with meter not presently in operation.

(c) Plants with unreliable metering devices.

CHLORINATORS All sewage discharged into Class A waters in the Interstate Sanitation District must be so treated as to reduce the coliform organisms to the standards established under the Tri-State Compact. Chlorine is almost universally used for the purpose, and it therefore behooves all of the municipalities bordering these Class A areas to carefully determine if their present chlorinating equipment is adequate to meet the requirements of the near future. Should any existing chlorinator have a capacity only equal to that required at the present time, it would seem that it would be most advisable to increase this capacity as a post war project to meet future requirements.

Duplicate installations of chlorinators for standby purposes or to meet peak loads should be considered and municipalities should be urged to take cognizance of this need.

It would be desirable if priorities could be given to sanitation projects by the various departments of the federal government, including the War Production Board and financing agencies, even before the termination of hostilities. When restricted materials become available, then also this type of work should be given a high preferential treatment.

The desirability, if not necessity, of works for the abatement of pollution cannot be too strongly emphasized, nor too often repeated. Frequently works of this nature fail to be included in lists prepared by various officials because of the apparent lack of demand for such projects. It goes without saying that roads, municipal buildings, schools, and other projects have a far greater appeal to the public than do works for the abatement of pollution.

Pollution abatement projects represent large investments underground, and frequently even the results cannot be observed. At best, the results reclaim the original conditions which prevailed along the waterfront by eliminating objectionable conditions, and therefore give the impression of being negative rather than positive. About all that can be seen of the large investment is the treatment works themselves; the pipes are buried. Even these treatment works are much maligned. Not infrequently

one hears of taxpayers seriously objecting to the location of sewage treatment works in the immediate vicinity of their property. Modern sewage treatment works are unobjectionable to sight and to the sense of smell. One may see these projects located in or near parks, and operated in such a manner as to cause no objection whatsoever. We can cite on example where children wade in a small ornamental pool, located in the center of a sewage treatment plant. Mothers later came and demanded to be permitted to sit about this pool rather than occupy an adjacent park. This example may be unusual but the conditions are not. Sewage treatment works are to the public interest. They remove pollution and permit the use of the waters for bathing and other recreational purposes, and permit areas to be used for shellfish culture and development of fish life. Unless pollution abatement is practiced, the waters will retrogress to the point where they become a serious nuisance.

In this particular area, untreated pollution is in violation of State laws and of the Interstate Compact, therefore its abatement is in the interest of public improvement, public health and in conformity with the laws of the State. It is strongly recommended that every project included in this report be considered as being high on any priority list for post war public works improvements.

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